Open Science Policy at the Ss. Cyril and Methodius University in Skopje

Skopje, March 2022

SUBJECT OF THE POLICY

With this document Ss. Cyril and Methodius University in Skopje creates, defines and promotes Open Science Policy (OS Policy), based on relevant institutional, national and European Union documents, proclaiming advances in science and diffusion of knowledge, for the benefit of society, through adoption of practices of open, findable, accessible, interoperable, reusable, reproducible and responsible research.

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[1] photo @OpenAire, link: https://www.openaire.eu/openaire-input-on-unesco-s-open-science-consultation

Број. 02-478/10
31.3.2022
Skopje

Pursuant to Article 94, paragraph 2 of the Law on Higher Education ("Official Gazette of the Republic of Macedonia" No. 82/2018 and "Official Gazette of the Republic of North Macedonia" No. 178/2021) and Article 157, paragraph 1, item 7 from the Statute of the Ss. Cyril and Methodius University in Skopje ("University Gazette" No. 425/2019), the University Senate, at its 19th session held on march 31th , 2022 adopted the following

**Open Science Policy
At the Ss. Cyril and Methodius University in Skopje**

Subject of the Policy

With this Policy the University promotes Open Science aiming to remove the barriers for sharing any kind of research output. OS is an umbrella. proclaiming advances in science and diffusion of knowledge, for the benefit of the society, through adoption of practices of open, findable, accessible, interoperable, reusable, reproducible and responsible research as an important goal of the University strategic documents.

Glossary

The terms used in this Policy have the following meaning:
- **Open Science** is a system change allowing for better science through open and collaborative ways of producing and sharing knowledge and data, as early as possible in the research process, and for communicating and sharing results.[2]
- **Open Access** - the conditions under which UKIM creates access to its Research Infrastructure for use by different groups of **Users** inside and outside the organization. Open access contributions include peer-reviewed scientific publications, original scientific research results, raw data and metadata, source materials, digital representations of pictorial and graphical materials and scholarly multimedia material and other research outputs in an open and non-discriminatory manner with possibility to access and re-use digital research outputs with as few restrictions as possible.[3]
- **Research Infrastructure** (infrastructure for carrying out research) – physical structure (science institutes, laboratories, etc.), instruments, tools, and other material and virtual resources and related services required for the performance of modern fundamental and applied research;
- **Resources** – research infrastructure, scientists and other researchers working with the infrastructure, staff providing services to the infrastructure, conducting the operation of the infrastructure, working, maintenance and development, time of the infrastructure;

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[2] EU Open Science Policy, for more go to the link:
https://ec.europa.eu/info/research-and-innovation/strategy/strategy-2020-2024/our-digital-future/open-science_en
[3] Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities,2003,link
https://openaccess.mpg.de/Berlin-Declaration and EU Commission Recommendation (EU) on access to and preservation of scientific information2018/790 ,link:
https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32018H0790

- **8 pillars of the European Union's Open Science Policy:[4]**
  - **FAIR Data** - principals encouraging researchers in making outputs of their research findable, accessible, interoperable, and reusable.
  - **Research integrity** – researchers sharing the values of honestly, reliably, respectfully and accountable of their actions. UKIM is committed to the highest standards in research integrity, stipulated in the legal acts as in Code of Ethics of the University.
  - **Next Generation Metrics** – commitment to shift of cultural thinking toward use of bibliometric in research, especially while evaluating quality, which will help achieving better understanding of the impact of the research.
  - **Scholarly communication and education and skills** – intention for scholarly communication shift to fully Open Access. Also, focusing in providing training for researchers for more knowledge and skills engaging with Open Science.
  - **Citizen Science** – engaging with members of the public enabling for their contribution to the research.
  - **European Open Science Cloud** – an environment for hosting and processing research data to support EU science.
  - **National Open Science Cloud Initiative** - is core contributor to the European Open Science Cloud (EOSC) service portfolio, run by UKIM.
- **Research Data** is any information that has been collected, observed, generated or created to validate original research findings.
- **Research** is defined as any creative and systematically performed work with the goal of furthering knowledge.
- **Researcher** is any scientific and teaching staff, associates, students and other participants in the University system of science and higher education.
- **Green Open Access** - the process of providing open access through an open access repository (also known as "self - archiving")
- **Gold Open Access** - the process of achieving open access through publication in an open access journal (open access publishing)
- **Affiliation** – Indicating the name and address of the University and official e-mail address of the author
- **DOI** (**Digital Object Identifier**) - unique and persistent digital identifier assigned to an object of any type.
- **ORCID** (**Open Researcher and Contributor ID**) - unique and persistent identifier of researchers and collaborators, the use of which enables better visibility of authors and interoperability of a wide range of information systems.
- **Open AIRE (Open Access Infrastructure for Research in Europe**) - European Commission project launched with the aim of promoting the implementation of open access to scientific publications and research data and building a European scientific research infrastructure for the storage, retrieval, and reuse of research results.
- **Repository** - Digital collection that collects and permanently stores the results of scientific-research, intellectual and creative work of a certain institution (institutional) or material of the same scientific topic (thematic).
- **License** - Permission by which the right holder defines the conditions for reuse of their work.

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[4] Open Science, European Commission, link:
https://ec.europa.eu/info/research-and-innovation/strategy/strategy-2020-2024/our-digital-future/open-science_en

> ➢ **Metadata** - Structured data that describe, explain, locate, or otherwise facilitate the management of digital objects (e.g., title, topic, description, author, publisher, rights, date, language, identifier, etc.).

Introduction to the aim, objectives, activities and the legal grounding of the Policy

The Ss. Cyril and Methodius University in Skopje (UKIM) is a functional community of 23 faculties, 5 research institutes, 4 public scientific institutions as associate members, 8 additional associate members (one higher educational institution and 7 other organizations) in Republic of North Macedonia. UKIM carries out study programs and offers research services in all scientific fields – natural sciences and mathematics, technical and technological sciences, medical sciences and health, agricultural and veterinary sciences, social sciences, humanities and arts.

UKIM has decentralized management structure with common high-level and policy decision making management. This provides management independence to UKIM's unit but a centralized decision-making and coordination for common issues.

UKIM hosts number of heterogeneous research-oriented and application-oriented laboratories at different faculties and institutes (units). They include various sophisticated research-grade equipment used for the provision of services and resources to numerous multidisciplinary research communities in all scientific fields. Memorandums of collaboration with different research and industrial partners have been signed, making UKIM's Research Infrastructure (RI) and corresponding services available for industry and research communities of different types. Also, UKIM has established collaboration and provides services for different Ministries and other Governmental institutions.

Objectives and alignment

Objectives of the OS Policy include the promotion and continuous development of an encouraging environment for the creation of new social and economic values through the use of scientific information and research data that are the product of publicly funded scientific activities of the University research stakeholders.

The main objective for the adoption of the OS Policy by the University is the international visibility and the establishment of the University as an eligible partner in research projects and research area, regionally and on pan-European level.

OS Policy is founded upon the following **fundamental concepts:** open science, open access, research data and research infrastructure and research stakeholders.

The benefits from having an Open Science Policy at the University is multiple. This provide better access to the research outputs and among other includes a more effective coordination in usage of the overall RI, efficient resource sharing, enhanced collaboration between different subjects involved.

Legal grounding

The Policy is in alignment with the 2012[5] and update in 2018[6] European Commission Recommendation on access to and preservation of scientific information, the Guidelines on the rules of open access to scientific

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publications and research data in Horizon 2020[7], its action with lines of the European Open Science Policy Platform[8], the Communication on Achieving the European Education Area by 2025[9], the Communication: A new European Research Area for Research and Innovation[10], European Commission's study Towards a 2030 vision on the future of universities in Europe[11], as well as UNESCO Recommendation on Open Science from November 2021.[12] The Policy takes into consideration and the reports from the European University Association as the policy input Perspectives on the new European Research Area from the university sector[13] and Universities without walls: A vision for 2030[14].

The Policy is as result of University's strategic dedication for Internationalization, acknowledgment of the importance of science, technology and innovation and commitment to achieving high standard in the R&D in line with European Education Area. These postulates are underlined in University's documents such are University Statute from 2019[15], University's Strategy[16] 2019-2023 as well as the Action plan[17].

Activities

Activities for achieving the objectives of the University OS Policy will be in line of:

- ➤ Providing open access to scientific papers, information and research data;
- ➤ The possibility of using scientific information and research data for new scientific activities, knowledge transfer, and innovation development;
- ➤ Achieving a high level of awareness and knowledge of the importance of open scientific;
- ➤ Information and research data among the University research stakeholders;
- ➤ Providing a framework for support and training of all providers of scientific information and research data at the University.

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[7] H2020 Programme: Guidelines to the Rules on Open Access to Scientific Publications and Open Access to Research Data in Horizon 2020, access:
https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf

[8] Research and innovation: European Open Science Policy Platform, access: https://ec.europa.eu/info/research-and-innovation_en

[9] COM/2020/625: Communication from the Commission to the European Parliament, the Council, The European Economic and Social Committee and the Committee of the Regions on achieving the European Education Area by 2025, access:
https://op.europa.eu/en/publication-detail/-/publication/c8e92a1e-0346-11eb-a511-01aa75ed71a1

[10] COM/2020/628: Communication from the Commission to the European Parliament, the Council, The European Economic and Social Committee and the Committee of the Regions A new ERA for Research and Innovation, access:
https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2020:628:FIN

[11] European Commission, Directorate-General for Research and Innovation, Whittle, M., Rampton, J., Towards a 2030 vision on the future of universities in Europe, Publications Office, 2020,
https://data.europa.eu/doi/10.2777/510530

[12] UNESCO Recommendation on Open Science, UNESCO, 2021, link:
https://unesdoc.unesco.org/ark:/48223/pf0000379949.locale=en

[13] EUA: Perspectives on the new European Research Area from the university sector, December 2020, access:
https://eua.eu/downloads/publications/eua%20policy%20input_perspectives%20on%20era%20from%20the%20university%20sector.pdf

[14] EUA: Universities without walls – A vision for 2030, February 2021, access:
https://eua.eu/resources/publications/957:universities-without-walls-%E2%80%93-eua%E2%80%99s-vision-for-europe%E2%80%99s-universities-in-2030.html

[15] Statute of The Ss. Cyril and Methodius University in Skopje, 425/2019, access:
http://ukim.edu.mk/dokumenti_m/264_STATUT_UKIM-6.6.2019.pdf

[16] Strategy of The Ss. Cyril and Methodius University in Skopje, 2019, access:
http://ukim.edu.mk/dokumenti_m/Strategija_i_AP/Strategija_na_UKIM_2019-2023_MK.pdf

[17] Action plan of The Ss. Cyril and Methodius University in Skopje, 2019, access:
http://ukim.edu.mk/dokumenti_m/Akcionen_plan_na_UKIM_2019-2023_MK.pdf

General provisions and principles

- **The Ss. Cyril and Methodius University in Skopje** (here after – **UKIM**)**,** is the oldest and largest public Higher Education Institution in Republic of North Macedonia and a member, as representative of the country, in the EOSC organization and Open AIRE initiative.
- **UKIM** commits to development of science and research and openness in its work as one of the guiding principles in the practices to open and responsible research.
- **UKIM** is also fully dedicated to meet the aim of the 8 pillars of the EU's open science policy: Open Data (FAIR Data), Research Integrity, Next Generation Metrics, Future of Scholarly Communication, Citizen Science, Education and Skills, Rewards and Initiatives, and EOSC.

The University OS Policy is founded upon the following **principles**:

- **Open access is of public interest:** The results of publicly funded research should be accessible in open access because it improves the transparency of research, opportunities for access to knowledge and opportunities for cooperation and development and competitiveness of society as a whole.
- **The principle of openness:** The University is committed to promoting the principle of openness, encouraging research stakeholders to publish papers and data with an open access, stimulating the dissemination of knowledge and accessibility of research results.
- **The principle of quality:** The University will publish all scientific information and research data that are timely, comprehensive, and accurate.
- **The principle of accessibility:** The University will promote the openness and accessibility of scientific information and research data to the widest range of users in accordance with FAIR principles (Findable, Accessible, Interoperable, and Reusable).

Rights and Responsibilities

a. **University**

- UKIM supports and empowers the transition to Open Science through education, training and awareness-raising.
- UKIM supports Open Access through the University's Repository of scientific and artistic papers (Green Open Access) and the publishing services of the digital libraries and through process of negotiations with publishers for open access publication (Gold Open Access).
- UKIM mandates the use of DOIs, ORCID, University affiliation and others identifiers, as stipulated in the Rules for the manner and procedure for improving visibility and recognition of the University[18].
- UKIM urges development of mechanisms and services for the storage, safekeeping and sharing of data and other records, according to the FAIR principles.
- UKIM shall embedding Open Science practices in recruitment, research assessment and evaluation criteria.
- UKIM provides open access science journals.
- UKIM has Intellectual Property Policy[19] as support to Open Science.

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[18] Rules for the manner and procedure for improving visibility and recognition of the University, 2021, UKIM. [19] Intellectual Property Policy, (University Gazette number 275/2013).

b. Researchers

➢ Manage research and research data in accordance with the principles and requirements expressed in this Policy.

➢ Register new research projects at UKIM appropriate service in order to ensure that they are provided with the appropriate institutional support and available to internal or external users.

➢ Comply with the institutional, organizational and legal requirements related to the production and distribution of publications and data. Exceptions are made when there is other agreement with third party is taking place.

➢ Storing scientific and artistic papers at the University Repository.

➢ Use the University affiliation, ORCID and others identifiers, as stipulated in the Rules for the manner and procedure for improving visibility and recognition of the University[20].

Research Infrastructure

➢ **Research Infrastructure** (infrastructure for carrying out research) – physical structure (science institutes, laboratories, etc.), instruments, tools, and other material and virtual resources and related services required for the performance of modern fundamental and applied research.

➢ Ensuring that the **Repository** meets trusted quality standards (Open AIRE compatible, meeting FAIR principles, has a transparent repository policy) and are linked with EOSC.

➢ Ensuring that the **Repository** is registered in appropriate registries and is interrelated through the Open AIRE Guidelines.

Research infrastructure management

➢ Research infrastructure (RI) is managed by individual entities appointed by University's units, responsible for managing at their premises.

➢ Every University Unit shall produce its own Policy for Open Access to Research Infrastructures, respectfully to the University Open Science Policy.

Users

➢ Services of UKIM Research Infrastructure are provided to both internal and external Users.

➢ Internal User is a researcher or research group from any UKIM organizational unit.

➢ External User is a researcher or research group from other higher educational institution, researcher or research group from commercial organisations, civil society etc.

➢ Internal and external users can have different rights to access the RI, defined in the University Unit's Policy for Open Access to Research Infrastructures.

Access

➢ Access enables a legitimate and authorized admission to interactions and use of RI and the services provided by RI to users, which could be physical, remote or virtual (allowing access through communication channels, usually online network facilities).

➢ Research Infrastructure is accessible to the Users in compliance with procedures defined by the University Unit's Time of Access to the Research Infrastructure.

➢ Access to Research Infrastructure can be limited by the national security matters, privacy and confidentiality issues, commercial sensitivity, protection of intellectual property rights, and ethical consideration following applicable laws and regulations.

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[20] Rules for the manner and procedure for improving visibility and recognition of the University,2 021, UKIM.

Costs and fees

➢ Access to RI may be provided free of charge or may require payment.
➢ All terms and conditions associated with the use of RI have to be transparent and publicly available.
➢ Income received from the provision of the Research Infrastructure services have to be used for the up-keep, improvement and renovation of the RI. Other purposes might include acquisition of materials and tools required for the Research Infrastructure activities, improvement of qualification of the staff, maintenance, salaries and other expenses directly related to the Research Infrastructure activities.

Research Integrity, Confidentiality and Intellectual Property Protection

➢ The Open Science Policy follows the Statute of the University and the Code of Ethics of The University.[21]
➢ The Open Science Policy lies on the fundamental premises of the The European Code of Conduct for Research Integrity[22] and the principles:
  o Reliability in ensuring the quality of research, reflected in the design, the methodology, the analysis and the use of resources;
  o Honesty in developing, undertaking, reviewing, reporting and communicating research in a transparent, fair, full and unbiased way;
  o Respect for colleagues, research participants, society, ecosystems, cultural heritage and the environment;
  o Accountability for the research from idea to publication, for its management and organization, for training, supervision and mentoring, and for its wider impacts.
➢ The UKIM Open Science Policy as a guideline has the good research practices based on fundamental principles of research integrity.
➢ Ownership and management of intellectual property created at UKIM and confidentiality obligations are regulated by Law on Protection of Copyright and Related Rights[23]; Law on Protection of Industrial Property[24]; Law on Personal Data Protection[25] as well as the Intellectual Property Policy of Ss. Cyril and Methodius University in Skopje.

Dispute settlement

➢ The dispute settlement provisions should be closely defined in the University Unit's Policy for Open Access to Research Infrastructures.
➢ Disputes between members of the academic community of the University, as well as disputes between its units (faculties and institutes) arising from the use of Research Infrastructure Resources are resolved amicably, in the joint bodies and in another way of understanding. To resolve these disputes, the rector forms a mediation council, which participates and assists in resolving the situation. The report of the council is submitted to the rector, and if necessary to the Rector's Board.

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[21] Code of Ethics (549/2021), link:
http://ukim.edu.mk/dokumenti_m/248_Eticki_kodeks.pdf
[22] The European Code of Conduct for Research Integrity (2017) ALLEA, Berlin ,link:
https://allea.org/code-of-conduct/
[23] Law on Protection of Copyright and Related Rights, Official Gazette of the Republic of Macedonia No. 115/10, 140/10, 51/11, 147/13, 154/15 and 27/16.
[24] Law on Protection of Industrial Property, Official Gazette of the Republic of Macedonia No. 21/09, 24/11, 12/14, 41/14, 152/15, 53/16 and 83/18 and Official Gazette of the Republic of Northern Macedonia No. 31 / 20.
[25] Law on Personal Data Protection, Official Gazette of the Republic of North Macedonia No. 42/20 and 294/21.

> ➢ Disputes, between the University, i.e. its units and third parties, arising from the use of Research Infrastructure Resources are resolved through mediation, arbitration, or in court, in accordance with legal regulations.
> ➢ In case of dispute, jurisdiction has the Court in Skopje.

Enforcement of the Policy
This Policy shall enter into force on the day of its adoption and shall be published in the University Gazette.

Ph.D. Aneta Barakoska, full professor
President
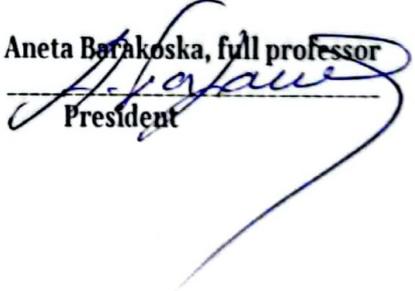
Annex: References used in the Policy

1. EU Open Science Policy, for more go to the link:
   https://ec.europa.eu/info/research-and-innovation/strategy/strategy-2020-2024/our-digital-future/open-science_en
2. Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities,2003,link
   https://openaccess.mpg.de/Berlin-Declaration and EU Commission Recommendation (EU) on access to and preservation of scientific information2018/790 ,link:
   https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32018H0790
3. Open Science, European Commission, link:
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4. National Open Science Cloud Initiative, link:
   https://www.nosci.mk/?page_id=188&lang=mk, also on the link:
   http://ukim.edu.mk/en_content.php?meni=220&glavno=72
5. 2012/417/EU: Commission Recommendation of 17 July 2012 on access to and preservation of scientific information, access:
   https://op.europa.eu/en/publication-detail/-/publication/48558fc9-d4c8-11e1-905c-01aa75ed71a1/language-en
6. 2018/790/EU: Commission Recommendation of 25 April 2018 on access to and preservation of scientific information, access:
   https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32018H0790
7. H2020 Programme: Guidelines to the Rules on Open Access to Scientific Publications and Open Access to Research Data in Horizon 2020, access:
   https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf
8. Research and innovation: European Open Science Policy Platform, access:
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9. COM/2020/625: Communication from the Commission to the European Parliament, the Council, The European Economic and Social Committee and the Committee of the Regions on achieving the European Education Area by 2025, access:
   https://op.europa.eu/en/publication-detail/-/publication/c8e92a1e-0346-11eb-a511-01aa75ed71a1
10. COM/2020/628: Communication from the Commission to the European Parliament, the Council, The European Economic and Social Committee and the Committee of the Regions A new ERA for Research and Innovation, access:
    https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2020:628:FIN
11. European Commission, Directorate-General for Research and Innovation, Whittle, M., Rampton, J., Towards a 2030 vision on the future of universities in Europe, Publications Office, 2020,
    https://data.europa.eu/doi/10.2777/510530
12. EUA: Perspectives on the new European Research Area from the university sector, December 2020, access:
    https://eua.eu/downloads/publications/eua%20policy%20input_perspectives%20on%20era%20from%20the%20university%20sector.pdf
13. UNESCO Recommendation on Open Science, UNESCO, 2021, link:
    https://unesdoc.unesco.org/ark:/48223/pf0000379949.locale=en
14. EUA: Universities without walls – A vision for 2030, February 2021, access:
    https://eua.eu/resources/publications/957:universities-without-walls-%E2%80%93-eua%E2%80%99s-vision-for-europe%E2%80%99s-universities-in-2030.html
15. Statute of The Ss. Cyril and Methodius University in Skopje, 425/2019, access:
    http://ukim.edu.mk/dokumenti_m/264_STATUT_UKIM-6.6.2019.pdf
16. Strategy of The Ss. Cyril and Methodius University in Skopje, 2019, access:
    http://ukim.edu.mk/dokumenti_m/Strategija_i_AP/Strategija_na_UKIM_2019-2023_MK.pdf

17. Action plan of The Ss. Cyril and Methodius University in Skopje, 2019, access: http://ukim.edu.mk/dokumenti_m/Akcionen_plan_na_UKIM_2019-2023_MK.pdf
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23. Law on Personal Data Protection, Official Gazette of the Republic of North Macedonia No. 42/20 and 294/21.